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WITH COMPLIMENTS OF THE AUTHOR.

THE INFLUENCE OF DISEASES  
OF THE  
NOSE AND NASO-PHARYNX  
ON OTHER PARTS OF THE BODY.

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BY W. SCHEPPEGRELL, A. M., M. D.,

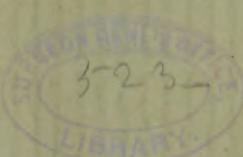
ASSISTANT SURGEON TO EYE, EAR, NOSE AND THROAT HOSPITAL, ETC.,  
NEW ORLEANS, LA.

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*Reprinted from the August, 1804, number of the New Orleans Medical and Surgical Journal.*

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L. GRAHAM & SON, LTD., 44-46 BARONNE ST., NEW ORLEANS





THE INFLUENCE OF DISEASES  
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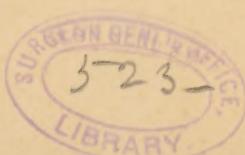
In bringing to your attention the influence of diseases of the nose and naso-pharynx on other parts of the body I will present a subject which has received much consideration from rhinologists for many years. While deprecating the opinion of extremists who believe that almost all diseases originate from the nose, and, still more, of many practitioners who appear to think that no disease can originate from this organ, I will endeavor to present certain facts on this subject, which will enable us to judge in what affections it is our duty to examine the nose and naso-pharynx with a view of benefiting our patient.

The influence of pathological conditions in the nose and naso-pharynx may be either direct or indirect (reflex). In the former the causative association with other diseases is usually well defined; in reflex disturbances, however, the etiological relationship is not so clear, and can only be substantiated by the oft repeated clinical experience of many observers.

1. The organ most frequently affected by diseased conditions of the nose and naso-pharynx is the ear. The openings of the Eustachian tubes in the naso-pharynx make the ears especially liable to pathological processes from this source, whether due directly to the extension of the disease or to any

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\* Read before the Louisiana State Medical Society, May 30, 1894.



condition that interferes with the function of ventilation of the middle ear.

With a view of showing the relationship between aural and nasal disease, Swinburn<sup>1</sup> gives a list of 1000 cases of catarrhal and purulent inflammations of the middle ear. In these cases there were present, either as an associate or causative condition, some disease of the nose or naso-pharynx in 914 cases. The causative or accompanying affections that were found were the various forms of rhinitis (771), post-nasal adenoids and enlarged tonsils (59), polypi (8), and deformities of the septum (76).

Turnbull<sup>2</sup> calls especial attention to the injurious influence of enlarged pharyngeal tonsils on the ears, and Goodwillie<sup>3</sup> shows the etiological influence of catarrhal conditions of the nose and naso-pharynx on deafness. Sexton,<sup>4</sup> in his work on "The Ear and its Diseases," states that the origin and continuance of aural disease are due to or intimately associated with catarrhal inflammation of the upper air-passages in the greater number of instances.

While scarlet fever, measles, diphtheria, meningitis, lues and other diseases frequently play a role as the causative factor of ear disease, still the consensus of opinion, based on oft observed facts, shows that the most common cause lies in the nose and naso-pharynx.

A very frequent cause of ear disease in children is the enlargement of the pharyngeal tonsil. While I concur with the opinion of Massel<sup>5</sup> and would deprecate indiscriminate adenotomy on all children in whom this tonsil is somewhat enlarged, still, where the hyperplasia interferes with free nasal breathing, or sets up congestion of the surrounding mucous membrane, it is undoubtedly our duty to remove it, especially if it has already caused injury to the middle ear.

The causal influence of nasal and post-nasal disease on the ears is so well recognized that I will not detain you by giving a history of cases to substantiate what I have said, but will now proceed to point out to you the association of diseases of the nose and naso-pharynx with pathological conditions of the eye.

2. The proximity of the eye to the nasal cavities and their

connection by means of the lachrymal duct, as well as by vascular and lymphatic circulation, would naturally suggest that the eye might be a frequent sufferer as a result of diseases of the upper respiratory tract, and that such is the case is a matter of common experience.

The manner in which the eye is affected may be by way of the lachrymal duct. This may either be through direct extension of the pathogenic process, or through interference with the free drainage of the duct from atresia at the nasal opening, compression from hypertrophies, polypi, foreign bodies or crusts.

The following case will exemplify the influence on the eye of a purulent process in the nose:

CASE 1.—Emily M., *æt.* 5, was kindly referred to me by Dr. C. A. Gaudet. The child had been suffering for some days with a purulent discharge from the nose, when suddenly a severe conjunctivitis of the left eye took place. Dr. Gaudet, correctly supposing that the disease of the eye was due to extension from the nose by way of the lachrymal duct, referred the child to me.

In a few days the purulent rhinitis was under control, and the conjunctivitis at once subsided. For some weeks afterward there was lachrymation due to congestion of the mucous membrane of the lachrymal duct, which, however, soon subsided.

De Schweinitz,<sup>6</sup> after reporting a number of cases of eye diseases, points out the importance of treating not only the lachrymal duct, but also radically treating the nasal chambers, which are frequently the cause of the trouble.

A not uncommon cause of eye symptoms is due to empyema of the accessory sinuses of the nose. Asthenopia is a common symptom of pus in the Antrum of Highmore and frontal or ethmoidal sinus, and I have observed this symptom even in empyema of the sphenoidal sinus. Pressure and pain about the eye are occasionally the only symptoms complained of in these affections.

Ziem<sup>7</sup> states that there may be an actual conveyance (*Verschleppung*) of the pus to the eye by means of the lymphatic or venous circulation, and reports three cases of iritis

which were treated with marked success by treatment of the nose and the maxillary sinus.

When we remember the anatomical situation of the eye, located as it is between the accessory sinuses of the nose, we can not be surprised that pain or pressure on the eye is one of the first symptoms complained of in disease of these cavities.

The following case will illustrate the importance of recognizing the influence on the eye of diseases of the accessory cavities of the nose.

CASE 2.—Miss Ella P., æt. 33, consulted me in the hope that the violent pain which she had in and over the right eye might be due to "catarrh" from which she thought she suffered. The following history was given me by the patient:

"About eleven years ago I had an occasional bleeding of the nose for several days, followed by a severe haemorrhage from the right nostril. I called in a physician, who immediately sent for another for consultation. They placed an instrument through the nostril backward from the mouth, and after attaching a piece of sponge with a solution of iron, they plugged the right side, when immediately the blood flowed through the left nostril. Upon plugging this side, the blood flowed through the mouth. Ice and other remedies were applied, and the haemorrhage was stopped after three hours. The physician removed the sponge on the second day, and replaced it after washing the nose with carbolic acid and water. After a week he removed the plugging and the bleeding stopped. Shortly after the haemorrhage I suffered with occasional attacks of neuralgia on the right side, back of the right eye, leading to the temple.

"About eight years ago I suffered for about four months with acute neuralgia back of the right eye. The attending physician treated the entire system and nerves without any relief. Tried electric battery and blistering around the eye, and fly blister back of right ear, but I received no relief except from opiates. The doctor diagnosed the case as 'obstinate neuralgia.'

Until three years ago I was treated by the same physician. At that time I had such a severe attack of neuralgia back of the right eye that I called in another physician, but was con-

fined to bed for three weeks. During that time I could not stand the light and suffered intensely. The only relief I obtained was from hypodermic injections of morphine. This physician diagnosed the case as 'neuralgia of the optic nerve.' After this attack I was left in a very nervous state. I was under the treatment of this physician until last summer.

"While in Louisville last summer I had another severe attack of neuralgia. The physician attending me there treated me locally, putting belladonna in the eyes, and four fly blisters (each following the other before the blister was healed) behind the right ear. After this I suffered with a severe pain between the brows. When bending my head forward I felt as though something moved, causing severe pain. The physician in Louisville advised me to consult a specialist, as, in his opinion, there was some cause for the neuralgia which his treatment did not relieve.

"During the past eleven years I have scarcely been a day without neuralgia, suffering more or less severely. Ever since the haemorrhage I have had considerable discharge of pus and streaks of blood daily from the right nostril. Almost every morning there was a scaly discharge from this nostril. I had also an occasional nose-bleeding from the right side. I used daily a solution of salt and warm water as a nose wash. My eyes were very much swollen after lying down, but the swelling would pass off after being up awhile. The right eye always felt strained, especially after looking up or outward, and looking down to read or sew caused extreme nervousness."

A rhinoscopic examination showed the anterior part of the right middle turbinal covered with pus, and the opening of the frontal sinus (ductus naso-frontalis) blocked with polypi. The removal of these by means of the snare, followed by catheterization and washing out of the frontal sinus at once gave marked relief.

The case proved to be one of empyema of the frontal and anterior ethmoidal cells, probably resulting from the plugging of the nostrils and the irritating solutions or decomposing blood setting up a pyogenic process in these cavities.

Attention has also been called to the etiological influence

of adenoid growths of the naso-pharynx on the eye. This influence is well shown in the following case:

CASE 3.—Mary R., æt. 7, was referred to me by Dr. B. A. Pope, with the request that I make a rhinoscopic examination in order to learn if there were present any nasal trouble which could explain why the phlyctenular ulcer, which the child had on the right cornea, would not react to the usual treatment.

An examination showed post-nasal adenoids and congestion of the mucous membrane of the nose, the latter probably depending upon the former condition.

Dr. Pope has, at my request, kindly given me the following history of the case:

Mary R., 7 years. March 10th, 1894.

Central phlyctenular ulcers of right cornea. The largest of these is infected, the infiltrated area extending over nearly one-third of the cornea. Intense ciliary congestion, and the palpebral conjunctiva is both strongly congested and swollen.

Touched the infected ulcer with pure carbolic acid.

Gave a solution of cocaine, pilocarpine and boric acid to use locally, hot water applications, and dark glasses.

The carbolic acid was applied on three successive days and then discontinued, as the ulcer was no longer progressive.

13th—Ulcers improved, but more redness of conjunctiva, and more secretion.

Ordered a bandage to be worn constantly on the eye. Touched lids with  $\frac{1}{2}$  per cent. nitrate of silver solution.

17th—Above treatment has been continued.

Touched ulcers with 1 to 500 methyl-violet solution.

19th—Silver solution discontinued, and dusting in of English calomel tried. Eye about the same.

21st—Has been treated every day. Began using hypodermic injections of strychnine daily.

29th—Ulcer again slightly infected. Scraped it clean. Discontinued bandage.

April 3d—Requested Dr. Scheppegrell to remove adenoid growths of naso-pharynx. Stopped methyl-violet.

5th—Growth removed two days, and already much better.

6th—Very much better. Almost no ciliary or palpebral congestion. Blood vessels gone from cornea.



Fig. 1—Defective development of Superior Maxilla from Post-Nasal Adenoids.

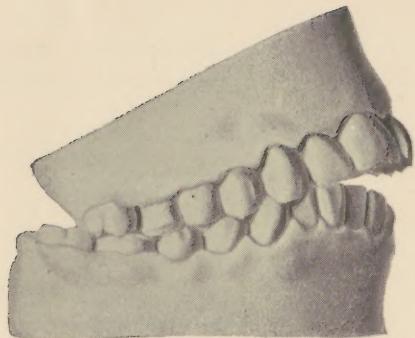


Fig. 2—Defective development of Superior Maxilla from large Post-Nasal Adenoids.



Fig. 3—Patient who has suffered since infancy from obstructed Nasal breathing, due to marked Hypertrophy of the Pharyngeal Tonsil.

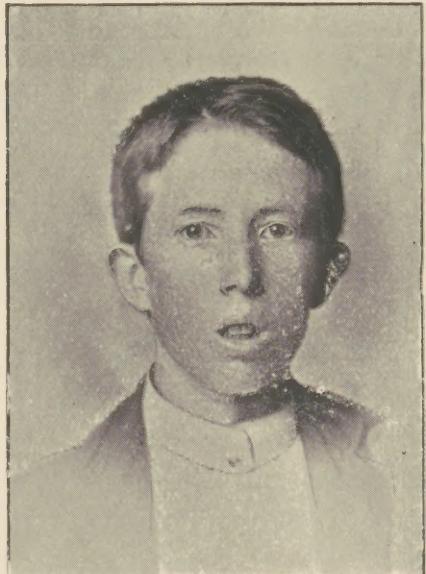


Fig. 4—Patient with large Fibroid Tumor of the Naso-Pharynx, causing mouth breathing.



9th—Much better. To leave off dark glasses except in sunlight. Have been using hypodermics of strychnine and the local treatment.

10th—Discontinued use of hot water.

12th—Practically well.

14th—Discharged well.

It will be noted that the improvement after removing the adenoids was sudden and very marked.

B. A. POPE, M. D.

3. Nasal and post-nasal disease frequently has a marked influence on the development of the individual. In children whose nasal breathing is obstructed we have frequently a narrow chest, the so-called "adenoidean face," and the high-arched palate in which the alveolar process is without sufficient space for the proper development of the teeth.

Korner<sup>8</sup> has published an interesting monogram on the defective development and deformities of the upper maxilla as a result of obstructed nasal breathing. The obstructed breathing may be due to atresia of the nostrils or choanæ, post-nasal adenoids, tumors, etc. In figures 1 and 2 are shown the maxillæ of cases in which the normal development is retarded by large adenoid growths of the naso-pharynx. The influence of obstructed nasal breathing is well recognized by the leading dentists, and the subject was thoroughly discussed at an assembly of the First District Dental Society, State of New York (January 14-16, 1890), not less than ten speakers taking part in the discussion. Delavan,<sup>9</sup> in the *Dental Cosmos*, states that a diagnostic sign of an habitual mouth-breather is a high arched and narrow hard-palate, associated with deflection of the nasal septum.

Figure 3 represents a patient who has suffered since earliest infancy from obstructed nasal breathing due to immense adenoid growths. The expression of her face is characteristic of this form of obstruction.

Figure 4 illustrates the facial expression of a patient who is an habitual mouth-breather. In this case the obstruction is a fibroid tumor of the naso-pharynx.

There are other conditions of the nose besides obstruction, which may cause deformity of the face. Ozoena, in

advanced cases, has not only a characteristic odor, but also a well defined facies. Abscess of the nasal septum, as shown by Gougenheim,<sup>10</sup> is frequently responsible for the facial deformity due to the "saddle-back nose." The nose is such a prominent feature that any disease which materially changes its natural contour at once mars the appearance of the face. Fig. 5 represents the case which I recently reported before the Orleans Parish Medical Society,<sup>14</sup> in which I removed seventy-six polypi from the nostrils of the patient. The immensely distended alæ of the nose, resulting from the pressure of the myxomatous growths, are well shown.

In Fig. 6, the deformity is due to a sarcoma involving both nostrils and encroaching upon the orbits. In Fig. 7, the luetic process<sup>s</sup> has destroyed the nasal septum, and the nose has sunk backward through loss of its natural support. In Fig. 8, the deformity is due to the loss of tissue resulting from a rodent ulcer.

The cases here shown are from the clinic of the Eye, Ear, Nose and Throat Hospital, the photographs having been taken for me by my esteemed colleague, Dr. Augustus McShane.

4. Disturbances of speech are a common result of nasal and naso-pharyngeal disease. We are all familiar with the nasal intonation due to an obstructed nose, and the difficulty of articulating certain sounds when suffering even from a severe coryza. Children with large adenoids have a muffled voice, and they will say *bay* for *may* and *day* for *nay*, from inability to articulate sounds which depend upon nasal expiration.

Besides these effects, we have certain cases of stuttering and stammering, which owe their origin to nasal affections. Winkler,<sup>11</sup> at the congress of the *Deutscher Naturforscher und Aerzte* in Bremen (1890), laid down the following propositions:

- (1) Nasal disease may be the sole cause of stammering.
- (2) By means of the treatment of the nasal conditions alone, the stammering may sometimes be cured.
- (3) No treatment of the stammering can be permanently successful should existing pathological conditions in the nose not be radically removed.

Kafeman,<sup>12</sup> after giving some important statistics which

show the frequency of nasal and naso-pharyngeal disease in children who stammer, points out the importance of operating before the hesitancy of speech becomes inveterate and difficult to remedy.

5. When we consider the important function of the nose of warming, moistening and cleansing the air which passes into the lungs, we can easily understand how the impairment or loss of this function would develop irritation and inflammation of the mucous membrane of the pharynx, larynx and bronchial tubes. This function may be disturbed not only by hypertrophies, large septal ridges, tumors or enlarged tonsils, which necessitate mouth breathing, but also by atrophic conditions in which the nasal chambers are widely distended, and in which the destruction of the glandular elements and the crusts forming over the mucous membrane impair the respiratory function of the nose. It is in these atrophic cases that we frequently have the most chronic forms of pharyngeal, laryngeal, and bronchial inflammations. The following case will illustrate this:

CASE 4.—Rev. Mr. E., a sufferer from chronic bronchitis for 15 years, was sent to me by my friend, Dr. Wm. E. Brickell, who concluded that the condition which resisted all the usual remedies might be due to nasal disease.

A rhinoscopic examination at once revealed the cause of the bronchial irritation. Both nostrils were so atrophied and patulous that the pharynx, which was dry and glazed, could be plainly seen through them. The upper parts of the nostrils were covered with scabs, which still further handicapped the little capacity that was left in the mucous membrane to prepare the inspired air for the lungs. The nasal condition clearly explained the unsuccessful result of the therapeutic measures.

6. Affections of the nose may not only have their influence on the respiratory passages as shown above, but also in another manner—by their reflex disturbance of respiration. These reflexes consist of sneezing, coughing, snorting, asthmatic attacks, hay fever, and stridulismus.

The influence of certain conditions of the nose on sneezing, as irritation from a foreign body, or a coryza, is an every day experience, but cough, as a pure-nasal reflex, is also not

uncommon. In many persons, if the mucous membrane of the nose be irritated, there will follow a paroxysm of coughing instead of sneezing, as in the following case:

CASE 5.—Daniel R., *aet. 11*, suffered from repeated attacks of coughing, which would immediately follow exposure to a slight draught. The parents, fearing tuberculosis, requested me to examine the case.

A physical examination of the chest revealed nothing abnormal, but as soon as the speculum was placed in the nostril the patient had a violent fit of coughing. The cough was repeated each time that the mucous membrane of the nose was touched, but ceased entirely as soon as the sensibility of the parts was destroyed by cocaine. Concluding that the cough was due to a special reflex together with congestion of the mucous membrane of the nose, I made an application of chromic acid to both nostrils, resulting in a cure of the cough.

In 1872, Voltolini<sup>13</sup> published a case of asthma in which the attacks at once disappeared on removal of nasal polypi, and called the attention of rhinologists to the possibility of asthma being due to a nasal reflex. Since then a large number of cases have been published showing the etiological influence of nasal irritation in many of these cases.

Recently I reported, before the Orleans Parish Medical Society, a case of asthma in a patient whose nostrils were occluded with polypi. The removal of these growths resulted in the disappearance of the asthmatic attacks for four months, but after this period of time the attacks reappeared. A rhinoscopic examination showed that a number of polypi had developed again, and the removal of these again resulted in a cessation of the asthmatic attacks. Since I reported this case, I have successfully treated another case of asthma by the removal of a sharp nasal spur, which, while not sufficiently large to materially obstruct nasal breathing, probably set up the reflex by irritation of the opposed mucous membrane.

Bosworth,<sup>14</sup> at the meeting of the American Laryngological Society, stated that there were three factors which were necessary to precipitate an asthmatic attack: 1. A special neurosis; 2. Certain external, probably atmospheric, irritations;



Fig. 5—Patient whose Nostrils are occluded and also distended with excessive development of Nasal Polyp.



Fig. 6—Sarcoma of both Nostrils, originating from the Septum of the Nose.



Fig. 7—Collapse of Nose from Leutic Necrosis of the Septum Nasi.



Fig. 8—Destruction of Nose from Rodent Ulcer.



3. Frequently a local process in the nose to which the unusual susceptibility to certain irritations is due. Blair,<sup>16</sup> Tissier,<sup>17</sup> Bollinger,<sup>18</sup> (asthma due to rhinolith), Tortensson,<sup>19</sup> Schech,<sup>20</sup> and Bosworth,<sup>21</sup> have each published a number of cases in which the asthma was due to pathological conditions in the nose, and successfully treated by their removal.

Hay fever resembles asthma in requiring, as in asthma, three factors for its production, the external irritation, however, being probably the pollen of certain flowers. By sending such patients to certain localities we prevent the attacks by removal of one of the factors which is necessary for the development of the paroxysm—that is, the irritating pollen. By remedying, however, the pathological process which is usually formed in the nose in such cases, we frequently cure the disease by the removal of another essential factor in these attacks. The following case will illustrate this:

CASE 6.—Miss Hilda T., æt. 17, referred to me by Dr. Wm. E. Brickell, was a chronic sufferer from hay fever. She had been advised by a former physician to use cocaine, in the form of a spray, to relieve the unpleasantness of the attacks. The patient used the cocaine many times during the day, as its influence would last only a short time. Dr. Brickell, fearing that the patient was acquiring the cocaine habit, referred the case to me. The removal of a septal ridge, and the cauterization of the opposed irritable mucous membrane, controlled these attacks in a short time.

Laryngismus stridulus may also be due to nasal or nasopharyngeal disease. Botey,<sup>22</sup> Duplay,<sup>23</sup> and others report cases resulting from enlargement of the pharyngeal tonsil, and Lennox Browne<sup>24</sup> claims that the majority of cases of laryngismus is found in children who are mouth-breathers.

7. Dyspepsia is sometimes due to nasal disease, especially in those cases in which there is a purulent process and the pus, which accumulates in the naso-pharynx, is swallowed, as often occurs. In many of these cases, as where the pus is discharged from one of the accessory sinuses of the nose, there is likewise an elevation of temperature, which also affects the appetite and the digestion of the patient.

CASE 7.—Mr. T. L. F. consulted me for a catarrhal dis-

charge from his throat, which he thought affected his stomach and system generally. He complained of dyspeptic troubles, and had a temperature of 99.6 Fahr. The laity recognize all pathological conditions of the nose as "catarrh," and Mr. F. placed the responsibility of all his complaints on the "catarrh." His conclusions were correct, but his "catarrh" proved to be an empyema of the antrum of Highmore on both sides. The drilling and disinfection of these cavities prevented the accumulation of pus in his naso-pharynx and brought the temperature to the normal. This treatment removed the dyspepsia which all the powders and waters had naturally failed to benefit.

8. S. Weir Mitchell<sup>25</sup> in his admirable paper before the Ophthalmologic Section of the College of Physicians of Philadelphia, March 26, 1894, states that "the general practitioner, when called to treat a neurosis, especially a headache, habitually refers the patient to an ophthalmologist." Now, while I do not question the wisdom of this procedure, I wish to call attention to the fact that many neuroses, and especially headache, form a common symptom of many diseases of the nose. In empyema of the accessory sinuses, in atrophic rhinitis, and in necrotic processes, it is rarely absent, while it is frequently present in nasal stenoses. I call to mind the following case:

CASE 8. Capt. W. consulted me for ear trouble. A rhinoscopic examination showed marked hypertrophy of the turbinals on both sides, almost completely obstructing the nostrils.

Believing that the nasal obstruction was responsible for the ear disease (otitis media non supp.), I removed the nasal stenosis by means of the electro-cautery. Some months afterward, the patient informed me that he had been a sufferer from severe headaches for many years, a circumstance to which he had not previously called my attention; but since he had been able to breathe freely through his nostrils, he had had but one headache in three months, and this a very light attack.

9. There are a number of nasal reflexes which are not yet quite understood, and of which a wider experience is needed to give them their proper clinical value. Thus Dobberke<sup>26</sup> records a case of epilepsy in which the attacks did not return

after an operation for the removal of adenoids. An inability to fix the attention on a subject, and headache after mental exertion (aprosexia), are occasional but well recognized symptoms of an enlarged pharyngeal tonsil.

Enuresis nocturna is also occasionally due to adenoid growths of the naso-pharynx—a circumstance which is not surprising when one watches the restless tossing and efforts at respiration of a mouth-breathing child. Cases in which this affection has been cured by removal of adenoid growths are reported by Sokolowski,<sup>27</sup> Korner<sup>28</sup> and others.

The advisability of inspecting the nostrils in tic douloureux is exemplified by reports of cases made by B. Fraenkel,<sup>29</sup> Peltesohn<sup>30</sup> and Dunn,<sup>31</sup> in which this was cured by intra-nasal operations.

Jacobi,<sup>32</sup> of New York, claims ten cases of chorea due to nasal and naso-pharyngeal disease.

In conclusion, I would again call your attention to the importance of the nose and naso-pharynx in many pathological conditions, which, at first, may appear to have no connection with these parts. The human body is, however, made up of various distinct, and yet inter-dependent, organs, the derangement of any of which or of its function, can not but have an adverse influence on the corporate body.

If then I have impressed you sufficiently, so that, in examining a patient, after having auscultated the heart and lungs, and percussed the liver; after examining into the condition of the kidney, spleen and intestinal canal, you make some investigation as to the condition of the nose and naso-pharynx, my object in reading this paper will have been accomplished.

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